

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A **self-contained and standalone** conformal air defense (CAD) system adapted to be attached externally to **a surface of** an aircraft as an appendage, the system comprising:

a conformal mounting adapter having an aircraft-to-adapter interface and upper adapter side, **said aircraft-to-adapter interface configured to conform to the surface of the aircraft;**

a mounting structure having an adapter interface and a mounting side, said adapter interface attached to said upper adapter side;

~~a missile~~ **an electronic infrared** countermeasures system (**IRCM**) mounted on said mounting side of said mounting structure, **said infrared countermeasures system configured for directing an infrared laser source at an attacking missile to confuse the missile's guidance system;** and

a cover substantially enclosing said countermeasures system, said cover removably fastened to said mounting side of said mounting structure,

wherein the system is configured to operate autonomously independent of crew interaction, requiring only a power source from the aircraft.

2. (Cancelled)

3. (Cancelled)

4. (Currently Amended) The system according to claim 1, said cover having a canoe shape **which includes a starboard side surface and port side surface oriented in a longitudinal manner which connect together to form a leading and trailing edge, and a bottom surface with exterior edges connected to lower edges of said starboard side surface and port side surface, said bottom surface extending and connecting to said leading and trailing edge.**

5. (Cancelled)

6. (Cancelled)

7. (Original) The system according to claim 1, said cover having a half-spherical shape.

8. (Original) The system according to claim 1, said cover having a tear drop shape.
9. (Original) The system according to claim 1, said cover having an elliptical bubble shape.
10. (Original) The system according to claim 1, said cover having at least one turret opening adapted to receive a rotating laser turret.
11. (Original) The system according to claim 11, said at least one turret opening located on said bottom surface of said cover.
12. (Original) The system according to claim 1, said cover having at least one infrared transmissive window.
13. (Original) The system according to claim 1, said cover having at least one fairing opening to receive an sensor housing mounting structure.
14. (Original) The system according to claim 1, said countermeasures system including at least one sensor, at least one rotating laser turret, at least one electronic box, and a single power cable.
15. (Currently Amended) The system according to claim 1, said mounting structure **further having a canoe-shaped outer perimeter defined by a pair of opposing pointed terminus ends, said mounting structure further** including at least one sensor mounting structure **formed about said perimeter in a generally orthogonal orientation to said mounting side,** at least one laser turret **cylindrically-shaped** mounting structure **connected to said mounting side in a generally orthogonal orientation with respect to said mounting side,** and at least one mounting support.
16. (Cancelled)
17. (Original) The system according to claim 1, said conformal mounting adapter having an aircraft-to-adapter interface adapted to fit specific aircraft mold lines and structural mounting provisions.
18. (Original) The system according to claim 1, said mounting structure, said missile countermeasures system, and said cover provided as a single common line replacement unit capable of being installed on a plurality of aircraft designs.
19. (Original) The system according to claim 1, said countermeasures system comprising:

at least one missile detection and warning receiver to observe attacks;
a countermeasure processor to verify an attack and direct a countermeasure response;
a gimballed fine track sensor that acquires and tracks attacking missiles; and
a modulated directed infrared countermeasure source for jamming and disrupting the missile guidance capabilities.

20. (Original) The system according to claim 19, said countermeasures system comprising a Directional Infrared Countermeasures (DIRCM) system.

21. (Currently Amended) A method for fitting a commercial aircraft with a self-contained and standalone conformal airliner defense (CAD) system, the system comprising a an electronic infrared countermeasures system (IRCM) for directing an infrared laser source at an attacking missile to confuse the missile's guidance system, wherein the countermeasures system is contained within a conformal external mounting apparatus system, the method comprising:

performing a diagnostic check-out of the countermeasures system prior to installation onto the aircraft, wherein the diagnostic check-out is performed independently of the aircraft;

connecting a power cable connector from the countermeasures system to a power connector on the aircraft;

attaching a conformal mounting adapter to an exterior surface of an aircraft;

fastening a mounting support structure, with the countermeasures system mounted thereon, to the conformal mounting adapter; and

fastening a cover to the support structure which substantially encloses the countermeasures system.

22. (Cancelled)

23. (Cancelled)

24. (Currently Amended) A self-contained and standalone conformal external mounting system for a housing an electronic infrared missile countermeasures (IRCM) system for directing an infrared laser source at an attacking missile to confuse the missile's guidance system, said conformal mounting system adapted to be exteriorly

mounted to ~~a fuselage~~ an exterior surface of an aircraft as an appendage, said conformal mounting system comprising:

a conformal mounting adapter configured to be attached to the exterior surface an aircraft ~~fuselage~~;

a mounting structure configured to be fastened to said conformal mounting adapter and configured to receive ~~a missile~~ an electronic infrared countermeasures system; and

a cover configured to substantially enclose said mounting structure and the countermeasures system;

wherein said conformal external mounting system and the ~~missile~~ countermeasures system can be ~~at least one of~~ removed, replaced and installed as a complete and entire line replaceable unit.

25. (Original) The conformal external mounting system according to claim 24, wherein a single electrical power cord is provided from the countermeasures system to be connected to an aircraft's power supply harness.

26. (Currently Amended) An aircraft in combination with a self-contained and standalone conformal airliner defense system (CAD) ~~exteriorly~~ attached as an appendage to an exterior surface of said aircraft, said CAD system comprising:

a conformal mounting adapter attached to ~~an~~ said exterior surface of said aircraft;

a mounting structure attached to an upper surface of said mounting adapter;

~~a missile~~ an electronic infrared countermeasures system (IRCM) mounted onto said support structure, said infrared countermeasures system configured for directing an infrared laser source at an attacking missile to confuse the missile's guidance system;
and

a cover substantially enclosing said countermeasures system and removably fastened to said support structure;

~~wherein said mounting adapter, mounting structure, and said cover are configured to form an aerodynamic appendage;~~

wherein said countermeasures system is substantially self-contained, standalone and completely operable independent of pilot input and control, requiring only a power source from said aircraft's power supply.

27. (Cancelled)
28. (New) The combination according to Claim 26, said cover having a canoe shape which includes a starboard side surface and port side surface oriented in a longitudinal manner which connect together to form a leading and trailing edge, and a bottom surface with exterior edges connected to lower edges of said starboard side surface and port side surface, said bottom surface extending and connecting to said leading and trailing edge.
29. (New) The conformal external mounting system according to claim 24, said cover having a canoe shape which includes a starboard side surface and port side surface oriented in a longitudinal manner which connect together to form a leading and trailing edge, and a bottom surface with exterior edges connected to lower edges of said starboard side surface and port side surface, said bottom surface extending and connecting to said leading and trailing edge.
30. (New) The system according to Claim 1, said conformal adapter further having a canoe-shaped outer perimeter defined by a pair of opposing pointed terminus ends, the adapter further including a lattice framework design, and a plurality of fastening tabs with holes disposed there through formed about said perimeter of the conformal adapter.